REMARKS

These remarks are in response to the Final Office Action dated December 11, 2008. This response is accompanied by a Request for Continued Examination. Applicants respectfully request a three month extension of time. Authorization is given to charge Deposit Account No. 50-0951 for the appropriate extension fees.

At the time of the Office Action, claims 1-4 were pending in the application. Claims 1-4 were rejected under 35 U.S.C. §103(a). The rejection is discussed in more detail below.

I. Claim Rejections on Art

Claims 1-4 were rejected under 35 U.S.C. §103(a) as being unpatentable over EP 0094208 to Agarwal (hereafter "Agarwal") in combination with EP 1153653 to Filippi et al. ("Filippi"). Applicants respectfully submit that claim 1 is patentable over these references.

Agarwal relates to a reactor temperature control system, in which heat exchange fluid undergoes a phase change from liquid to vapor when it passes through a heat exchanger inside a reactor 10. This is clear, for instance, from the abstract, the description at page 3, line 25 or claim 1, line 27, which mention the heat of vaporization of the coolant. Thus, in Argawal, the liquid coolant fed at the bottom of reactor 10 leaves the latter in vapor phase. Otherwise, no mention of the heat of evaporation of the coolant would be necessary.

In an Agarwal system, it is the phase change that determines the heat exchange coefficient between the heat exchange fluid and the reactants. With the evaporation of the coolant, the heat exchange coefficient in the heat exchanger is always much higher than the heat exchange coefficient of the reactants and determines the whole heat exchange coefficient of the system. Thus, it is not possible to effectively control or change the heat exchange coefficient during operation of the reactor. The heat exchange coefficient of the system remains fixed and corresponds to that of design depending on the type of coolant used.

Therefore, it is technically not correct to state that in the system according to Agarwal the speed of the heat exchange fluid coolant can influence the heat exchange coefficient. To the contrary, for the reasons set forth above, varying the speed of the heat exchange fluid does not change the heat exchange coefficient inside the reactor since the fluid evaporates during its passage through the heat exchanger inside the reactor.

Accordingly, the Office Action incorrectly asserts that the heat exchange coefficient inside the heat exchanger is less than the heat exchange coefficient in the catalytic tubes. Contrary to the assertion in the Office Action, the heat exchange coefficient is substantially much higher (at least ten times higher) than the heat exchange coefficient of the reactants and, therefore, any change in speed of the heat exchange fluid would have no influence on its heat exchange coefficient and in any case it would not be possible to obtain a coefficient that is lower than the heat exchange coefficient in the catalytic bed as claimed in present claim 1.

In the system of claim 1, the heat exchange fluid clearly undergoes no phase change during its passages through the heat exchanger inside the reactor because no setting of the heat exchange fluid could be obtained by varying the speed of the heat exchange fluid, and no lower heat exchange coefficient with respect to the heat exchange coefficient in the catalytic bed could have been obtained.

Furthermore, Applicant notes that in its response to the first Office Action, it was submitted that in Agarwal the coolant is made to evaporate during heat exchange with the reaction mixture flowing inside the catalytic tubes, and thus its physical state changes from liquid to gaseous. This means that the heat exchange coefficient of the coolant is increased at least of a factor ten by such a change in the physical state, which is thus much higher than the heat exchange coefficient within the catalyst tubes. Applicant submits that this reason provides additional support for why claim 1 is patentable over the cited art.

Claim 1 is also patentable over a combination of Agarwal with Filippi. Applicant notes that Filippi merely concerns a method for controlling the temperature in a catalytic bed, but does not teach or suggest the feature recited by claim 1.

For the foregoing reasons, claim 1 is patentable over the prior art. Claims 2-4 are also patentable because of their dependence on an allowable base claim, and because of the further features recited therein.

II. Conclusion

Applicants have made every effort to present claims which distinguish over the prior art, and it is thus believed that all claims are in condition for allowance. Nevertheless, Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would

expedite the prosecution of the application to an allowance. In view of the foregoing remarks, Applicants respectfully request reconsideration and prompt allowance of the pending claims.

Respectfully submitted,

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